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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/772,088

02/03/2004

Juan Cartos Minano

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EXAMINER

CHOI, JACOB Y

ART UNIT

PAPER NUMBER

2885

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

04/24/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/772,088

Applicant(s)

MINANO ET AL.

Examiner

Jacob Y. Choi

Art Unit

2885

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 04 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16, 45 and 46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5, 8-16, 45 and 46 is/are rejected.
- 7) ☒ Claim(s) 6 and 7 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 February 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4/2007 & 2/2007.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on April 5, 2007 has been entered.

Response to Amendment

2. Examiner acknowledges that the applicant has amended claim 1 and newly added claims 45-46. Currently, claims 1-16 and 45-46 are pending in the application.

Specification

3. The specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Information Disclosure Statement

4. The information disclosure statement (IDS) submitted on February 13, 2007 and April 4, 2007 was filed after the mailing date of the Final Office action on February 13,

2007. The submission is in compliance with the provisions of 37 CFR 1.97.

Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Note: Claims in a pending application should be given their broadest reasonable interpretation. *In re Pearson*, 181 USPQ 641 (CCPA 1974).

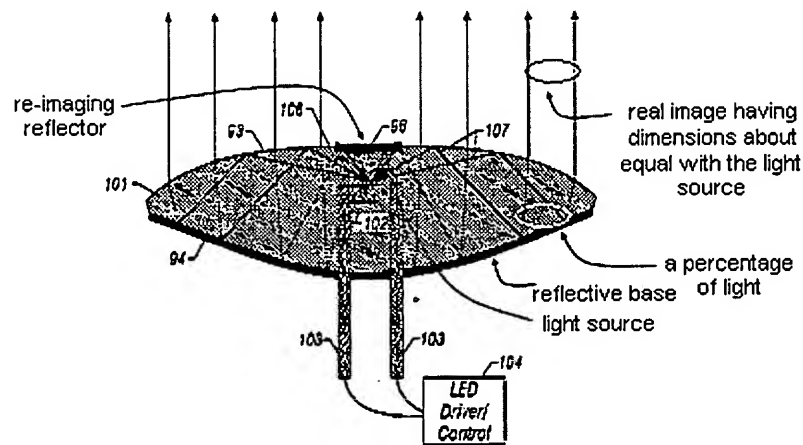
Things clearly shown in reference patent drawing qualify as prior art features, even though unexplained by the specification. *In re Mraz*, 173 USPQ 25 (CCPA 1972).

6. Claims 1-5, 8-16 and 45-46 are rejected under 35 U.S.C. 102(e) as being anticipated by Minano et al. (USPN 6,639,733).

Regarding claim 1, Minano et al. discloses a reflective base (e.g., 94), a first light source (e.g., 102) positioned proximate the reflective base (e.g., 94; Figure 10), and a re-imaging reflector (e.g., 96) positioned partially about the first light source (e.g., 102), where a percentage of light emitted from the first light source (e.g., 102), and at least some of the percentage of light reflected from the re-imaging reflector (e.g., 96) to the reflective base (e.g., 94) adjacent (e.g., Figure 10) the first light source (e.g., 102), and at least some of the percentage of light reflected from the re-imaging reflector (e.g., 96) defines a first real image having dimensions about equal with dimensions of the light

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source (e.g., Figure 10) such that the first real image is adjacent the first light source (e.g., 102) and the reflective base (e.g., 94) reflects the light of the first real image (e.g., Figure 10).



Regarding claim 2, Minano et al. discloses the re-imaging reflector is *generally* a quarter ellipsoid (e.g., column 17, lines 45-60; "... structures can form radiation into a wide diversity of shapes, such as ellipses, rectangles, crosses and other unsymmetrical shapes") positioned on the first light source and a second focus positioned proximate the first light source at a position of the first real image.

Regarding claim 3, Minano et al. discloses the second focus is further positioned below the reflective base at a height below a surface of the reflective base equal to a height of a light-emitting surface of the first light source from the surface (e.g., Figure 10).

Regarding claim 4, Minano et al. discloses the re-imaging reflector comprises a first sector of a first prolate ellipsoid and a second sector of a second prolate ellipsoid, where the first and second sectors joined along an axis (e.g., Figures 12-14).

Regarding claim 5, Minano et al. discloses a first percentage of the light reflected from the re-imaging reflector (e.g., 96) is reflected from the first sector (e.g., 142) to the reflective base (e.g., 143) adjacent the first light source (e.g., 144) at the first real image of the first light source (e.g., 144) adjacent the first light source on a first side of the first light source such that the reflective base reflects the light of the first real image (e.g., Figure 14), and a second percentage of the light reflected from the re-imaging reflector from the second sector (e.g., 142, opposite side of 141) to the reflective base adjacent the first light source establishing a second real image of the first light source adjacent the first light source such that the reflective base reflects the light of the second real image (e.g., Figure 14).

Regarding claim 8, Minano et al. discloses a tailored free-form exit face (e.g., 93) positioned at least partially about the light source (e.g., 102) such that the percentage of light reflected by the re-imaging reflector (e.g., 96) and light emitted from the source (e.g., 102) not reflected by the re-imaging reflector is emitted from the exit face establishing (e.g., Figure 4) an output illumination that meets a predefined prescription.

Regarding claim 9, Minano et al. discloses a lens (e.g., 101) wherein the first light source (e.g., 102) is positioned proximate the lens (e.g., 101) such that the lens receives the light from the first light source and the first real image.

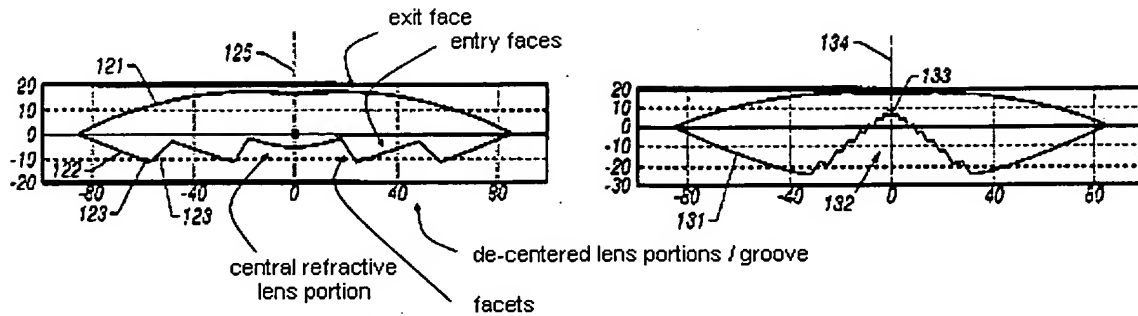
Regarding claim 10, Minano et al. discloses the lens (e.g., 101) comprises the re-imaging reflector (e.g., 96), and a cavity in which the first light source (e.g., 102) is positioned.

Regarding claim 11, Minano et al. discloses first reflective surface (e.g., 122) positioned to receive the light from the first light source (e.g., 133) and the first real image (e.g., Figure 12), a reflector array positioned to receive light reflected from the first reflective surface (e.g., 122), a mirrored surface positioned to receive reflected light from the reflector array, and an output surface.

Regarding claim 12, Minano et al. discloses a lens (e.g., 101) comprising, a re-imaging reflector (e.g., 102), input surface defining a cavity that receives the first light source (e.g., 102), reflective fingers (e.g., 122), reflective folding face (e.g., 123), and exit face (e.g., 123).

Regarding claim 13, Minano et al. discloses a totally internally reflecting (TIR) lens (e.g., 101) positioned proximate the first light source (e.g., 102) opposite from the re-imaging reflector (e.g., 94) such that the TIR lens receives light reflected by the first real image.

Regarding claim 14, Minano et al. discloses the TIR lens is a *de-centered* lens comprising exit face (e.g., 121), a central refractive lens, grooved facets (e.g., 122, 123, 132) having entry faces (e.g., 122), and totally internally reflecting faces positioned relative to the grooved entry faces (e.g., Figure 14, 141, 142) to receive light entering the lens from the entry faces of the grooved facets and to reflect the received light to the exit face (e.g., Figures 12-15).



Regarding claim 15, Minano et al. discloses the TIR lens comprises a de-centered *generally* rectangular TIR lens having dimensions of a rectangular section (e.g., column 16, lines 45-60; "... *microlenses are arranged in a rectangular, square or hexagonal pattern, producing a uniform far field patter*") of length defined according to a defining complete circular TIR lens extend from a center to a peripheral edge of the defining complete circular TIR lens (e.g., Figures 10-15).

Regarding claim 16, Minano et al. discloses the first real image is positioned adjacent the light source but separated from the light source by a gap (e.g., Figure 10).

Regarding claim 45, Minano et al. discloses the reflective base (e.g., 94) reflects the light of the first real image away from (e.g., Figure 10) the re-imaging reflector (e.g., 96).

Regarding claim 46, Minano et al. discloses the re-imaging reflector (e.g., 96) is positioned partially about the first light source (e.g., 102) such that at least a secondary percentage of light directly from the first light source is directed away (e.g., Figure 10) from the re-imaging reflector (e.g., 96).

Allowable Subject Matter

7. Claims **6 and 7** are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

8. Applicant's arguments with respect to claims 1-16 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Vaughnm (USPN 7,192,173) – optical throughput condenser

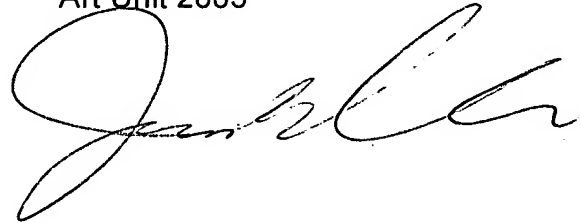
10. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jacob Y. Choi whose telephone number is (571) 272-2367. The examiner can normally be reached on Monday-Friday (10:00-7:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jong-Suk (James) Lee can be reached on (571) 272-7044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jacob Y Choi
Examiner
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A handwritten signature in black ink, appearing to read 'Jacob Y Choi', written over the printed name and title.

JC